

## Eosinophilic Polymorphous Pruritic Eruption Associated With Radiotherapy: Clinical, Dermoscopic, and Histological Aspects

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### Case Presentation

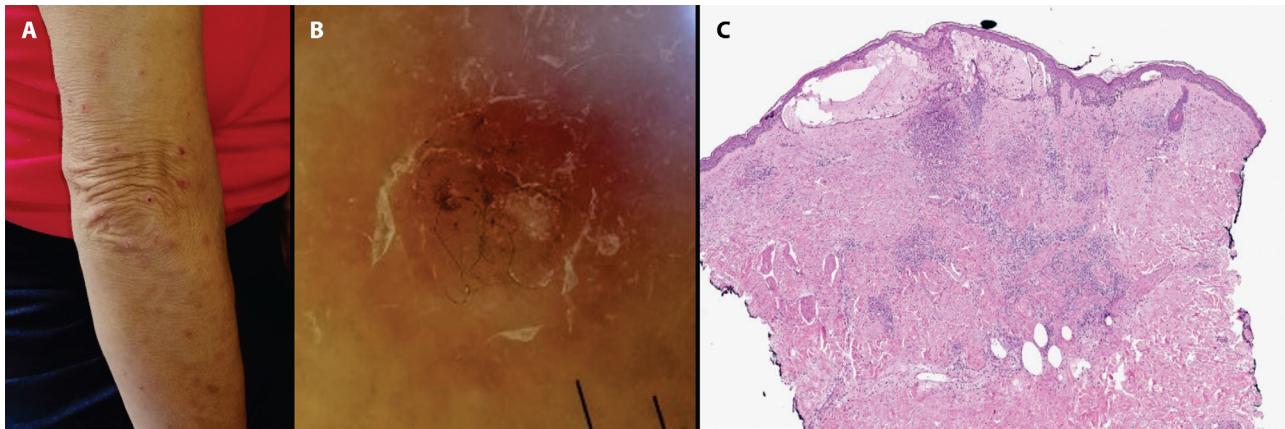
A 67-year-old woman with an HPV-positive squamous cell carcinoma of the uterine cervix received cisplatin associated with radiotherapy (95 Gy). One week before the radiotherapy completion, she developed a diffuse polymorphous pruritic rash characterized by erythematous crusted papules and rare vesicles, mainly affecting upper and lower limbs (Figure 1A). She denied insect bites or taking any new medications.

Laboratory investigations, including anti-BP180/230 and anti-desmoglein 1/3 antibodies, were negative. Dermoscopy showed a pinkish papule with dilated polymorphic vessels surrounded by a whitish desquamative collarette (Figure 1B). A punch biopsy revealed a vesicular subepidermal bullous dermatosis associated with a superficial and deep infiltrate with perineural and perieccrine disposition (Figure 1C). The

diagnosis of eosinophilic, polymorphous, pruritic eruption associated with radiotherapy (EPPER) was made [1-2].

### Teaching Point

Eosinophilic Polymorphous Pruritic Eruption Associated with Radiotherapy (EPPER) is characterized by a diffuse pruritic skin eruption and is generally observed in female cancer patients during radiotherapy or after its completion. The differential diagnosis with other dermatoses characterized by eosinophils, including eczema, bullous pemphigoid, exaggerated insect bites-like reactions, or drug adverse reaction, might be difficult, and a careful evaluation of the clinical history, skin examination, and histology are mandatory for achieving the correct diagnosis. Dermatoscopic examination of further cases could add new clues to guide the differential diagnosis.



**Figure 1.** (A) Diffuse polymorphous pruritic rash characterized by erythematous crusted papules and rare vesicles. (B) Dermoscopy showed a pinkish papule with dilated polymorphic vessels surrounded by a whitish desquamative collarette. (C) Vesicular subepidermal bullous dermatosis associated with a superficial and deep infiltrate, perineural and perieccrine disposition.

## References

1. Rueda RA, Valencia IC, Covelli C, Escobar C, Alzate A, Saldarriaga B, et al. Eosinophilic, polymorphic, and pruritic eruption associated with radiotherapy. *Arch Dermatol*. 1999;135:804-810. DOI:10.1001/archderm.135.7.804
2. Löbelenz L, Schliep S, Wörl P, Uslu U. Eosinophilic polymorphic and pruritic eruption associated with radiotherapy: case report and overview of disease characteristics. *Clin Exp Dermatol*. 2019;44:567-569. DOI:10.1111/ced.13821